

REMARKS

The present application was filed on February 11, 2000 with claims 1-47. Claims 1 and 35-47 are the independent claims.

The specification has been amended to update related application information and to correct minor errors of a typographical nature.

Claims 1, 15, 19, 20 and 36-38 have been amended. Claims 40-47 have been canceled.

Applicants respectfully request reconsideration of the present application in view of the above amendments and the following remarks.

With regard to the objection to claims 37-47 as being “substantial duplicates” of claims 1, 35 and 36, Applicants respectfully traverse. Claims 1, 35 and 36 are written from the perspective of transmission of at least one of an uplink access signal and an uplink timing synchronization signal. In contrast, claims 37, 38 and 39 are written from the perspective of reception of at least one of an uplink access signal and an uplink timing synchronization signal. Therefore, at least claims 37, 38 and 39 are clearly distinct from claims 1, 35 and 36, and the objection is traversed on this ground. With regard to claims 40-47, claims 40 and 42 are written from the perspective of transmission of an uplink access signal, claims 41 and 43 are written from the perspective of transmission of an uplink timing synchronization signal, claims 44 and 46 are written from the perspective of reception of an uplink access signal, and claims 45 and 47 are written from the perspective of reception of an uplink timing synchronization signal.

Notwithstanding the foregoing traversal, Applicants have canceled independent claims 40-47. Applicants note that the term “at least one of an uplink access signal and an uplink timing synchronization signal,” as used in the independent claims 1 and 35-39, refers to an uplink access signal only, an uplink timing synchronization signal only, or both an uplink access signal and an uplink timing synchronization signal. Therefore, by way of example, a given mobile station as recited in claim 35 may be capable of transmitting either an uplink access signal, an uplink timing synchronization signal, or both, and a given base station as recited in claim 39 may be capable of receiving either an uplink access signal, an uplink timing synchronization signal, or both. This being the case, Applicants submit that the subject matter of claims 40-47 is fully encompassed by claims 1 and 35-39, such that the cancellation of claims 40-47 does not alter the scope of the pending claim

set in any way.

Moreover, claims 36 and 38 have been amended in a manner that further distinguishes each of these claims from the other independent claims.

The objection to claims 37-47 should therefore be withdrawn.

Claims 19 and 20 stand rejected under 35 U.S.C. §112, first paragraph, as being allegedly not enabled by the specification. Applicants respectfully traverse, and submit that the subject matter of claims 19 and 20 is fully supported and enabled by the specification. Regarding claim 19, Applicants refer the Examiner to the specification at, for example, page 11, lines 17-23, which clearly describes the limitation in question. Similarly, with regard to claim 20, Applicants refer the Examiner to the specification at, for example, page 12, lines 9-15, which clearly indicates that a complex coefficient is characterized by a magnitude and a phase. The §112 rejection is therefore believed to be improper, and should be withdrawn. Nonetheless, Applicants have amended claims 19 and 20 to clarify the antecedent basis of certain terms, although it is believed that these amendments are not required for reasons relating to patentability.

Claims 1, 8, 9, 11-13, 18 and 35-47 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,970,047 (hereinafter “Suzuki”). Applicants respectfully traverse the §102(e) rejection.

Applicants initially note that the Manual of Patent Examining Procedure (MPEP), Eighth Edition, August 2001, §2131, specifies that a given claim is anticipated “only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” citing Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, MPEP §2131 indicates that the cited reference must show the “identical invention . . . in as complete detail as is contained in the . . . claim,” citing Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). For the reasons identified below, Applicants submit that the Examiner has failed to establish anticipation of at least independent claims 1 and 35-47 by the Suzuki reference.

Independent claim 1 is directed to a method for use in a wireless communication system. The claim calls for transmitting at least one of an uplink access signal and an uplink timing synchronization signal from a mobile station of the system to a base station of the system. The claim

further specifies that the at least one signal is from a signal set which includes a plurality of orthogonal signals, such that different timing and access signals from the mobile station and at least one other mobile station of the system are received at the base station orthogonal to one another over a base station sample window.

Illustrative examples of such uplink access signal and uplink timing synchronization signals are described in conjunction with FIGS. 1 and 2 of the drawings, and the corresponding text at page 6, line 7, to page 9, line 7, of the specification.

The Examiner in formulating the §102(e) rejection over Suzuki argues that the claimed uplink access signal and uplink timing synchronization signal configurations are disclosed in the U0 to U5 timing arrangement shown in FIGS. 3A-3G of Suzuki, and in the associated text at column 4, lines 39-46. Applicants respectfully disagree. There is no teaching or suggestion in the cited portions of Suzuki regarding the particular limitation in question, that is, an uplink access signal or an uplink timing synchronization signal from a signal set which includes a plurality of orthogonal signals, such that different timing and access signals from the mobile station and at least one other mobile station of the system are received at the base station orthogonal to one another over a base station sample window.

The particular cited portions of the Suzuki reference relied on by the Examiner do not relate to uplink access signals or uplink timing synchronization signals, but instead relate only to uplink and downlink data transmission. Suzuki in fact teaches away from the claimed invention by teaching that the mobile stations synchronize to signals transmitted from the base station during a timing processing period which is clearly described as falling outside of the time slots T or R of FIGS. 3A-3G. This is apparent from column 5, lines 15-30 of Suzuki, which provides the following disclosure, with emphasis supplied:

Each mobile station has an allowance of two time slot period (i.e., 400 μ sec.) from completion of reception and transmission of one time slot period to the next execution of transmission and reception. Each mobile station carries out a timing processing and a processing called a frequency hopping by using the allowance. That is, during about 200 μ sec. before each transmission slot T, the mobile station carries out a timing processing TA

in which a transmission timing is synchronized with a timing of a signal transmitted from the base station side. After about 200 μ sec. when each transmission slot T terminates, a frequency hopping in which a band slot for carrying out signal transmission and reception is changed to another band slot, is carried out. Owing to the frequency hopping, a plurality of band slots prepared in one base station are utilized uniformly by respective mobile stations, for example.

It appears from the above-quoted portion of Suzuki that the Suzuki arrangements utilize a different type of timing processing than the claimed invention. There is no particular disclosure in Suzuki regarding an uplink access signal or uplink timing synchronization signal of the type claimed, and Suzuki actually teaches away from the claimed arrangements by teaching synchronization of the mobile stations with a downlink signal transmitted by the base station outside of the particular T or R time slots shown in FIGS. 3A-3G.

Since Suzuki fails to meet at least the limitations of claim 1 regarding uplink access signal or uplink timing synchronization signal configuration, claim 1 is not anticipated by Suzuki.

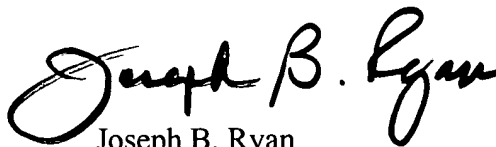
Independent claims 35-47 each include limitations similar to those of claim 1 as described above, and are therefore believed allowable over Suzuki for substantially the same reasons that claim 1 is believed allowable over Suzuki.

Dependent claims 2-34 are believed allowable at least by virtue of their dependence from independent claim 1. Moreover, one or more of these claims are believed to define additional separately-patentable subject matter relative to Suzuki and the other art of record.

Applicants further submit that the additional references cited by the Examiner in conjunction with the §103(a) rejections fail to supplement the above-described fundamental deficiency of Suzuki as applied to claim 1. The §103(a) rejections are therefore believed to be improper and should be withdrawn.

In view of the above, Applicants believe that claims 1-39 as amended are in condition for allowance, and respectfully request the withdrawal of the §112, §102(e) and §103(a) rejections.

Respectfully submitted,

A handwritten signature in black ink, reading "Joseph B. Ryan". The signature is fluid and cursive, with the first name "Joseph" being the most prominent part.

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